Conclusion: in pts with severe AS and preserved LVEF there is a relatively wide range of CFR values. CFR is more severely impaired in symptomatic pts and is mainly determined by increased LV wall stress and workload, and diastolic dysfunction.

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Screening protocol of subclinical atherosclerosis with noninvasive imaging methods, by radio frequency (RF) echo 2D

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Purpose: The detection of subclinical atherosclerosis with the new noninvasive imaging techniques coupled radiofrequency (RF) echo 2D, allows us to study the remodeling of the arterial wall to evaluate the progression of atherosclerosis and risk stratification in patients with cardiovascular risk factors. These techniques can be used in individual or mass screening for patients with risk factors in intermediate- risk priority to stratify their risk and start a support targeted to change the markers integrators (decrease the degree of abnormality) and standardize bios markers and reduce the occurrence of cardiovascular events vascular medium and long term, associated with control of cardiovascular risk factors.

Description of methods: the methods by Radio Frequency (RF) coupled to the 2D echo: The VIF Method (vasodilatation by means of flow) allows an analysis of degree of endothelial dysfunction, QIMT: measurement of intima media thickness, QAS: study of arterial stiffness by measuring the velocity of the pulse wave (PWV) and stiffness parameters alpha and beta). Techniques with a sensitivity of 90% and specificity of 92%.

Other promising new techniques that can be used in addition: PVI echo particle image velocimetry (measuring wall shear stress, velocity vector analysis of blood flow at the carotid bifurcation and MRI velocimetry: stress measurement by marking protons to even finer detection of the alteration of the arterial wall. Techniques which allow finer detection of atherosclerosis, the earliest changes in the arterial wall, but remain expensive and cumbersome and not accessible in daily practice.

Conclusion: All of these techniques can be used in screening and early detection of subclinical atherosclerosis, and must be systematically associated with the analysis of biomarkers (biological, bio-chemical markers of oxidative stress). The application of this new screening protocol of subclinical atherosclerosis, combined with targeted support will enable us to better detection and to develop preventive cardiology.

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Predictive factors of cardiac calcification in chronic hemodialysis

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Introduction: The cardiovascular complications are the leading cause of morbidity and mortality in chronic hemodialysis patients. These patients frequently have calcifications in vascular tissue. The aim of our study is to determine the prevalence of cardiac calcification in a population of chronic hemodialysis and to identify the parameters associated with risk of occurrence of cardiac calcification.

Patients and methods: This is a cross-sectional study was conducted over a period of three months, included 44 patients with chronic hemodialysis. Data collection was conducted through the history, study records, the study of books dialysis and results of echocardiography. We analyzed sex, age at the time of the study, the presence or absence of history of hypertension, obesity, duration on dialysis, serum calcium, phosphate, intact parathyroid hormone and drug intake carbonate calcium, sevelamer and alfacalcidol. Transthoracic echocardiography sought cardiac calcifications and their seats.

Results: These 44 patients including 22 (50%) were male and 22 (50%) female. The average age of 44.1±11.8 years and average duration of hemodialysis was 9.5±4.9 years. The prevalence of cardiac calcification in our patients is 43.2%. only duration of hemodialysis is associated with risk of occurence of cardiac calcification in our series as age, sex, obesity, history of hypertension, drug intake, calcemia, phosphoremia and parathyroid hormone does not seem to affect the risk of occurrence of this complication.

Discussion: The occurrence of soft tissue calcification is common in patients with chronic kidney diseases, which may occur especially in hemodialysis patients. Calcification in chronic hemodialysis patients is a factor of morbidity and mortality of growing concern.

Conclusion: this study showed that the prevalence of cardiac calcification in hemodialysis patients is high. Their research should be systematic to identify patients with high risk and to guide therapeutic management.

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Subclinical left ventricular dysfunction in asymptomatic scleroderma patients

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Purpose: Scleroderma has been associated with an increased risk of cardiovascular diseases. The aim of this study is to assess the systolic and diastolic function of the left ventricle (LV) in asymptomatic scleroderma patients.

Methods: We included twenty scleroderma patients without symptoms or signs of heart failure or angina (group I), and 20 healthy subjects (group II). The 2 groups had similar mean age, sex ratio, mean blood pressure and body mass index. All included subjects had no evidence of diabetes mellitus, valvular or ischemic heart diseases. We used standard echocardiography and tissue Doppler imaging (TDI).

Results: LV diastolic diameter, LV ejection fraction and the Tei index were similar in both groups. However, we observed lower mitral annulus systolic velocities measured by TDI in scleroderma patients (3.8±0.8 cm/s vs. 7.5±1 cm/s, $p<0.01$) reflecting subclinical LV systolic dysfunction. There was no significant difference in the ratio of early to late diastolic mitral filling velocities E/A and in deceleration time of E between the 2 groups. However, mitral annulus early diastolic velocities Em measured by TDI were markedly reduced in scleroderma patients (7.1± 0.8 cm/s vs. 13.4±1.5 cm/s, $P<0.01$) with higher ratio of E/Em velocities (14.1± 1.5 vs. 7.3± 1.3; $p<0.01$) suggesting impaired diastolic function.

Conclusion: This study shows the presence of LV systolic and diastolic dysfunctions in asymptomatic scleroderma patients. Tissue Doppler imaging may provide a useful tool to monitor the disease process and treatment response of this subclinical myocardial dysfunction.

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Prevalence of coronary artery spasm during dobutamine stress echocardiography

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Background: Previous care reports have suggested that dobutamine stress echocardiography may induce coronary artery spasm. The aim of this study was to assess the prevalence of coronary artery spasm during dobutamine stress echocardiography.

Methods: Over a nine-year period (from November 2001 to October 2010), we reviewed all patients (n=2.224) referred for dobutamine stress echocardiography. Criteria for selection included patients aged >18 years and with dobutamine stress echocardiography. We systematically analyzed all ECG performed during dobutamine stress echocardiography, allowing to detect ST elevation during the examination. All patients with ST elevation underwent a coronary angiography.

Results: A dobutamine stress echocardiography was performed in 2,224 patients. In 20 patients, a ST elevation was observed (always in infe-

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